

ABSTRACT OF THE DISCLOSURE

The present invention provides a manufacturing method of a high performance active matrix substrate at a high throughput with a less expensive apparatus, and an image display device using the active matrix substrate. On a stage moving in the short axis direction X and long axis direction Y on a rail, a glass substrate is carried, which has an amorphous silicon semiconductor film formed.

Polycrystallized and large grain silicon film may be obtained by intensity modulating the pulsed laser beam in a line beam shape by means of a phase shift mask with a periodicity in the long axis direction Y of the laser beam, moving the laser beam randomly in the modulation direction of the amorphous silicon semiconductor film formed on the glass substrate to expose to crystallize the film. The image display device may incorporate an active matrix substrate having active elements such as thin film transistors formed by this silicon film.